

AMENDMENTS TO THE CLAIMS

1. (Previously presented) An overhead cable comprising:
a tension-bearing core;
a conductive layer arranged at an outer circumference of the core; and
an outermost layer constituted by twisting together a plurality of segment strands and a plurality of grooves, each positioned at each boundary portion of adjoining segment strands, the segments and the grooves being spiraled along the longitudinal direction of the cable;
wherein the outer surface of each segment strand has a flat surface forming a side of a regular polygon or an arc-shaped curve surface dented from the flat surface;
wherein each groove comprises an arc-shaped curve having a predetermined radius R centered about a vertex of the regular polygon and recessed from the outer surface of adjoining segment strands; and
wherein a connecting portion between an end of the outer surface of the segment strand and a most projected portion of the groove has a crooked shape having an acute angle.
2. (Original) An overhead cable as set forth claim 1, wherein a diameter \underline{d} of a circle circumscribing the vertex of the regular polygon is within a range from 12.8 mm to 42.6 mm.
3. (Original) An overhead cable as set forth claim 2, wherein said regular polygon is made within a range from a regular 12-sided polygon to a regular 24-sided polygon.
4. (Previously presented) An overhead cable as set forth claim 3, wherein said arc-shaped curve is concave with respect to the straight line connecting adjoining vertexes of the regular polygon by a maximum depth D and
a ratio D/d between the maximum depth D and the diameter d of circumscribing the vertexes of the regular polygon is within a range from 0.0 to 0.018.
5. (Original) An overhead cable as set forth claim 4, wherein a ratio H/d between a maximum height H from a vertex of said regular polygon to the bottom of said groove and said diameter \underline{d} is within a range from 0.0045 to 0.0357.
6. (Currently amended) An overhead cable comprising:
a tension-bearing core;
a conductive layer arranged at an outer circumference of the core; and

an outermost layer constituted by twisting together a plurality of segment strands and a plurality of grooves, each positioned at each boundary portion of adjoining segment strands, the segments and the grooves being spiraled along the longitudinal direction of the cable;

wherein the outer surface of each segment strand has a flat surface forming a side of a regular polygon or an arc-shaped curve surface dented from the flat surface,

each groove comprises an arc-shaped curve having a predetermined radius R centered about vertex of the regular polygon and recessed from the outer surface of adjoining segment strands, and

a connecting portion between an end of the outer surface of the segment strand and the most projected portion of the groove has a crooked shape having an acute angle;

wherein a diameter d of a circle circumscribing the vertex of the regular polygon is within a range from 12.8 mm to 42.6 mm;

wherein said regular polygon is made within a range from a regular 12-sided polygon to a regular 24-sided polygon;

wherein ~~said straight line~~ the flat surface or arc-shaped curve is concave with respect to ~~the~~ a straight line connecting adjoining vertexes of the regular polygon by a maximum depth D and a ratio D/d between maximum depth D and the diameter d of circumscribing the vertexes of the regular polygon is within a range from 0.0 to 0.018;

wherein a ratio H/d between a maximum height H from a vertex of said regular polygon to the bottom of said groove and said diameter d is within a range from a 0.0045 to 0.0357; and

wherein a ratio H/R between said maximum height and said radius R is within a range from 0.08 to 1.0.

7. (Original) An overhead cable as set forth claim 6, wherein said diameter d is within a range from 35 mm to 38 mm, the number of said segment strands is 12, and said ratio H/R is less than 0.2.

8. (Previously presented) An overhead cable as set forth claim 6, wherein said diameter d is within a range from 35 mm to 38 mm, and the number of said segment strands is 20 and said ratio H/R is less than 0.6.

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9. (Original) An overhead cable as set forth claim 6, wherein said diameter d is within a range from 32 mm to 34 mm, the number of said segment strands is 16 and said ratio H/R is less than 0.4.

10. (Previously presented) An overhead cable as set forth in claim 6, wherein said diameter d is within a range from 27 mm to 29 mm, the number of said segment strands is 14, and said ratio H/R is less than 0.02.

11. (Original) An overhead cable as set forth claim 6, wherein said diameter d is within a range from 21 mm to 23 mm, the number of said segment strands is 14 and the ratio H/R is more than 0.5.

12. - 20. (CANCELED)

21. (Currently Amended) An overhead cable comprising:

a tension-bearing core;

a conductive layer arranged at an outer circumference of the core;

an outermost layer formed by twisting together a plurality of segment strands, and having a spiral groove along the longitudinal direction in the outer circumferential surface region of a boundary portion of each adjoining segment strand,

wherein in the contour of the cross-section of said outermost layer, each spiral groove comprises an arc-shaped curve having a predetermined radius R centered about one of a plurality of vertexes of a regular polygon;

wherein the intersection between sides of each of the spiral grooves and the outer contour of the segment strands between said spiral grooves defines a sharp, substantially discontinuous edge; and

wherein a diameter d of a circle circumscribing the vertexes of the regular polygon is within a range from 35 mm to 38 mm, the number of said segment strands is 12, and a ratio H/R , of a maximum height H from one of the plurality of vertexes of the regular polygon to the bottom of the spiral groove centered about the vertex and the radius R , is less than 0.2.